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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,330

04/19/2006

Dario Oldani

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EXAMINER

BELL, BRUCE F

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

06/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,330	Applicant(s) OLDANI ET AL.	
	Examiner Bruce F. Bell	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 14, 15 and 20-25 is/are rejected.
- 7) ☒ Claim(s) 6-13 and 16-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/19/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-5, 14, 15, 20, 21, 23, 24 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibata et al (3560355).

Shibata et al disclose refined brine recirculated to a mercury cathode cell, wherein the cell has a falling laminar flow curtain along the entire inner surface of an inlet transverse wall of the cell to above the recovered mercury inlet, so that the laminar flow curtain of brine reaches and thoroughly washes the entering mercury to prevent any alkaline was water flowing above the mercury from reaching the anode. The laminar

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flow curtain is formed by a long and narrow brine inlet that extends horizontally across the width of the transverse wall at a position sufficiently high above the surface level of the electrolyte in the cell. See abstract. The electrolytic cell is provided with a top box wherein brine enters the top box partitioned from the electrolytic Chamber by an inverted weir or baffle through a brine inlet consisting of one or more pipes. The mercury enters the bottom of the electrolytic cell below the top boxy through a mercury inlet passageway and under and past a mercury baffle. The brine and mercury together pass under and past the brine baffle and enter the electrolytic chamber. See col. 2, line 70 – col. 3, line 7. Alkaline wash eater enters the mercury inlet passageway together with the mercury and some of the waste water accompanies the mercury into the top boxy, where most of this was water flows in a laminar flow between the mercury and the brine. The electrolytic cell having a descending laminar flow along a transverse wall is a structure that supplies brine into the electrolytic cell through a long and narrow gap which is at a level above the surface of the stagnant electrolyte at the transverse wall of the mercury inlet and is provided across the entire horizontal length of the transverse wall. See col. 3, lines 41-48. Mercury and wash water flow through a mercury passageway and are separated at an inverted weir or baffle that is provided at the lower part of a transverse wall of the electrolytic cell, where only the mercury is separated out and flowed under the baffle and into the electrolytic chamber and flows downstream along and above the bottom of the electrolytic chamber. See col. 3, lines 49-58. Acidic supply brine is supplied from a passageway in the form of a trough disposed on the outer side of the upper part of the transverse wall through a gap provided in the upper

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part of the transverse wall and into the electrolytic chamber. The surface of the electrolyte within the electrolytic chamber is lower than the overflow lip of the gap, and the supply brine first falls along the entire inner surface of the transverse wall. The kinetic energy of this falling brine is such that although this brine curtain enters the electrolyte within the electrolytic cell, most of this brine flows along the surface of the transverse wall without mixing with the electrolyte and directly reaches the mercury surface. See col. 3, lines 59-73.

The prior art of Shibata et al anticipates the applicants instant invention as shown by way of the disclosure above with respect to the instant claims as presented. The recitation in the claims with respect to the materials used for the components of, and within the cell are inherently known in the art and are used to due to their chemical resistance to the electrolytes used in the cell.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 22 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al (3560355) in combination with Reynolds et al (4440614).

Shibata et al is as disclosed above with respect to the 35 USC 102(b) rejection.

Shibata et al does not disclose the internal device being electrically insulated from the cell.

Reynolds et al disclose that a rubber gasket is placed between the cell cover, the brine inlet trough means and between where the brine inlet trough means is joined to the cell bottom. See col. 3, lines 57-60.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the instant invention was made because even though the prior art of Shibata et al does not disclose that the internal device be electrically insulated from the cell, the prior art of Reynolds et al shows that in these types of cells that insulating material would be used in between the cell and the brine inlet trough means and therefore to use this concept in the invention of Shibata et al would have been within the ability of one having ordinary skill in the art.

Allowable Subject Matter

6. Claims 6-13, 16-19 are allowable over the prior art of record.
7. Claims 6-13, 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
8. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach and/or suggest the dispersion of mercury using the physical features recited in the instant claims and further does not teach a second element for raising the level.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bruce F. Bell whose telephone number is 571-272-1296. The examiner can normally be reached on Monday-Friday 6:30 AM - 3:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BFB
June 17, 2008

/Bruce F. Bell/
Primary Examiner, Art Unit 1795